

US EPA ARCHIVE DOCUMENT

**RESPONSE TO PUBLIC COMMENTS
ON THE PROPOSED PHASE IV
LAND DISPOSAL RESTRICTION RULE:
Wood Preserving Wastes**

Office of Solid Waste
U.S. Environmental Protection Agency

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INTRODUCTION

EPA proposed the Phase IV Land Disposal Restriction (LDR) rule in August 1995 to regulate decharacterized wastewaters and several newly listed hazardous wastes.¹ As part of the proposed rule, the Agency solicited and received public comments. This document reviews EPA's response to comments that relate to the Regulatory Impact Analysis (RIA) conducted for the proposed Phase IV rule.² We discuss below only those comments related to the analysis of the costs, benefits, and economic impacts of the proposed rule.³ We also exclude discussion of comments on the portion of the proposed rule addressing decharacterized wastewaters. In March 1996 Congress passed the Land Disposal Program Flexibility Act, a statute that essentially postpones any decision on potential regulation of decharacterized wastewaters until EPA conducts a study of the risks posed by units that manage these wastes. We also exclude discussion of comment on the portion of the proposed rule addressing treatment standards for TC metals. The Agency is reproposing treatment standards for TC metal nonwastewaters. Responses to public comments made on the TC metals portion of the proposed rule will be addressed in the response to comments document for the final rule.

In several instances, comments on the proposed rule led EPA to initiate new analysis to reflect the concerns of commentors and to incorporate their suggestions for improving the impact assessment. We identify below the major issues raised in the comments and describe the analysis that we performed in response. We address each of the major issues commentors raised for the Phase IV LDR rule regarding treatment standards proposed for newly identified wood preserving wastes;

WOOD PRESERVING LDRS

Summary of Comments

Commentors on the portion of the rule that establishes LDRs at UTS levels for wood preserving wastes focused on three major issues: (1) commentors in the wood preserving industry suggested that the economic impact of establishing dioxin treatment standards based on "six nines" incineration is very large and is underestimated in the RIA because they disagree with both

¹ EPA, "Land Disposal Restrictions -- Phase IV," 60 FR 43654, August 22, 1995.

² See *Regulatory Impact Analysis of the Phase IV Land Disposal Restriction Rule*, which can be found in the docket for this rule.

³ In most cases we have not addressed the wide range of comments that deal with EPA's selection of specific policy options. Examples of such comments include arguments related to the Agency's decision to regulate specific constituents, the suitability of granting compliance variances to certain industries, and the basis for selecting concentration standards. EPA's response to these comments is summarized in the preamble to the final rule.

the cost per ton and tonnage affected estimates in the RIA (e.g., estimates of tonnage affected did not include quantities of remedial waste at wood preserving sites); (2) commentors supported language in the rule that would provide exemptions for recycling of wood preserving wastewaters; and (3) commentors expressed some concern about differences in the quantity estimates in the capacity analysis and RIA (the difference was substantial, approximately an order of magnitude) and 4) commentors expressed concern that EPA had underestimated costs of the proposed rule for media (e.g., soil and groundwater) contaminated with wood preserving waste. Most of the commentors expressed similar concerns and most referred explicitly to the comments of the American Wood Preservers Institute.

EPA's Response

EPA's revised RIA addresses most of the concerns of commentors. First, [[revisions to the proposed rule allow for less stringent "four nines" incineration of wood preserving wastes affected by the rule. EPA reconsidered its suggestion that these wastes be combusted only in units meeting a "six nines" standard. This was not required in the listing rule itself, and is not warranted in any case since these wastes are not listed as acute hazardous -- the principal dcf/pcf contaminant are HCDD/HCDFs, not the more toxic TCDD/TCDFs.. As a result of this change, the estimated unit costs for incineration dropped substantially, from approximately \$6,000 per ton to a range of \$1,000 to \$1,500 per ton, depending on whether the waste contains both organic and metal hazardous constituents (wastes that contain both types of constituents are more costly to treat to UTS standards). EPA has also evaluated the option of treating newly identified wood preserving wastes in other combustion units such as cement kilns and the economic feasibility of this option.

Second, the final rule affirms an exclusion for recycling of certain wood preserving wastewaters -- this assumption is reflected in the cost and affected waste analysis conducted for the revised RIA, as it was in the RIA supporting the proposed rule.

Third, EPA devoted considerable effort to developing revised estimates of the total quantity of affected waste that accurately affect the legitimate uncertainty in measuring these quantities using existing sources of information. The revised RIA now incorporates a range of estimates, with the low end of this range based on the waste-per-unit-product approach employed in the RIA for the proposed rule and the high end of this range reflecting quantities of wood preserving wastes reported in EPA's Biennial Reporting System. After careful efforts to correct for differences in the manner in which the data were collected and interpreted, the two estimates nonetheless still differ by a factor of five. Differences in these estimates reflect that BRS estimates include some undetermined amount of soil and debris not captured in the waste-per-unit-production approach, and may also reflect some uncertainty over the physical form of the waste as reported in the BRS. Using a range of estimates is a reasonable method to reflect these uncertainties in evaluating the quantity of affected wastes.

EPA also explored the possibility of updating affected waste estimates that rely on the waste-per-unit-product approach used in the proposed RIA, but found that the wood preserving

industry no longer sponsors development of the comprehensive, detailed estimates of industry production necessary to implement this approach. Recent industry data collection efforts may not represent trends in the industry as a whole, and do not provide information at the detailed level necessary to update the waste-per-unit-product approach. The result of EPA's efforts to improve estimates of the impact of wood preserving LDRs are summarized in Exhibits 1 and 2 below.

Exhibit 1

QUANTITY ESTIMATES FOR NEWLY LISTED WOOD PRESERVING WASTES BY PRESERVATIVE TYPE

Preservative Type (Wastecode)	Number of Generating Facilities ^a	Low-End, Micklewright-based Quantity (tons) ^b	High-End, BRS-based Quantity (tons) ^c
Wastewaters^d			
Creosote (F034)	40	284,375	440
Creosote/Inorganic (F034)	18	55,220	0
Chlorophenol (F032)	19	56,754	12,761
Chlorophenol/Inorganic (F032)	12	34,632	0
Chlorophenol/Creosote (F032)	6	37,193	0
Chlorophenol/Inorganic/Creosote (F032)	12	77,835	0
Inorganic (F035)	362	0 ^e	59
TOTAL	469	546,009	13,260
Nonwastewaters^f			
Creosote (F034)	40	1,086	1,671
Creosote/Inorganic (F034)	18	242	8,751
Chlorophenol (F032)	19	348	2,385 ^g
Chlorophenol/Inorganic (F032)	12	240	1,645 ^g
Chlorophenol/Creosote (F032)	6	170	1,165 ^g
Chlorophenol/Inorganic/Creosote (F032)	12	424	2,907 ^g
Inorganic (F035)	362	1,350	284
TOTAL	469	3,860	18,808
<p>^a Number of active facilities data was taken from the 1993 Micklewright report; BRS data indicate a total estimate of over 200 facilities generating primary newly listed wood preserving wastes.</p> <p>^b Quantity estimates are based on data from <i>Wood Preservation Statistics, 1993: A Report to the Wood-Preserving Industry in the United States</i> (Tables 7 and 8) and waste generation rates from <i>Regulatory Impact Analysis for the Final Listing of Certain Wood Preserving Wastes</i> (Exhibit 2-17).</p> <p>^c Quantity estimates are based on data from "Revised Wood Preserving Estimates," a memorandum from ICF Incorporated to EPA's Capacity Programs Branch, June 18, 1996 and include an unknown amount of soil and debris.</p> <p>^d Includes quantity estimates for wastewaters and preservative drippage.</p> <p>^e No wastewaters/preservative drippage are generated. Facilities recycle/reuse all of their F035 wastewaters.</p> <p>^f Includes quantity estimates for process solid residuals. Spent formulations are assumed to be minimal, and therefore are not affected by the proposed Phase IV restrictions.</p> <p>^g In the BRS scenario, we were unable to directly classify all F032-bearing wastes. Therefore, we have allocated the total F032-bearing waste quantity (8,102 tons) according to the proportions in the Micklewright scenario.</p>			

Exhibit 2

**ESTIMATED INCREMENTAL TREATMENT COSTS OF THE PROPOSED RULE:
NEWLY LISTED WOOD PRESERVING WASTES**

Preservative Type (Wastecode)	Waste Quantity Affected (tons)	Total Costs (in millions)		Incremental Treatment Cost Attributable to Phase IV LDRs (in millions)
		Combined LDR Treatment and Subtitle C Disposal ^a	Subtitle C Land Disposal (Baseline)	
Creosote (F034)	1,086 to 1,671	\$1.0 to \$1.6	\$0.2 to \$0.3	\$0.8 to \$1.3
Creosote/Inorganic (F034)	242 to 8,751	\$0.3 to \$10.4	\$0.1 to \$1.6	\$0.2 to \$8.8
Chlorophenol (F032)	348 to 2,385	\$0.3 to \$2.2	\$0.1 to \$0.6 ^d	\$0.3 to \$1.6
Chlorophenol/Inorganic (F032)	240 to 1,645	\$0.3 to \$2.0	\$0.1 to \$0.3	\$0.2 to \$1.6
Chlorophenol/Creosote (F032)	170 to 1,165	\$0.2 to \$1.1	\$0.1 to \$0.2	\$0.1 to \$0.9
Chlorophenol/Inorganic/Creosote (F032)	424 to 2,907	\$0.5 to \$3.5	\$0.1 to \$0.5	\$0.4 to \$2.9
Inorganic (F035) ^b	1,350 to 284	\$0.7 to \$0.1	\$0.3 to \$0.1	\$0.4 to \$0.1
TOTAL^c	3,860 to 18,808	\$3.3 to \$20.9	\$0.7 to \$3.7	\$2.5 to \$17.1

Note: Cost estimates are based on information from both the low-end, Micklewright and high-end, BRS-based scenarios and are for Phase IV affected nonwastewaters only. F032 and F034 wastewaters are treated and discharged to a POTW and F035 wastewaters are recycled/reused.

- ^a Incineration costs for F032 and F034 nonwastewaters assume a 99.99 percent destruction and removal efficiency rate.
- ^b The values in the F035 range appear in descending order to maintain the format within the range: the first value references the low-end Micklewright scenario, while the second value references the high-end, BRS scenario. This is reflected in the totals.
- ^c Totals may not add due to rounding.
- ^d Baseline costs for F032 include incineration costs for 180 tons of F032/D037-mixed waste regulated by Phase II LDRs.

Finally, because environmental media contaminated by wood preserving wastes is being granted a capacity variance for two years, no costs from the Phase IV final rule will be incurred during this time period. Beyond this time period, any remaining remediation of these contaminated media still have a series of alternatives that would preclude the need to incinerate these media as commenters claim. In-situ treatment of these media are exempt from LDR treatment standards. Second, placement of wood preserving remediation wastes into or within a Corrective Action Management Units (CAMU) designated by the Regional Administrator does not constitute land disposal. 40 CFR §264.552(a)(1). Third, the alternative treatment standard for dioxins and furans for F032 wastes allows combustion in a wider range of units (e.g., cement kilns) at a lower cost than in the proposed rule. Fourth, hazardous debris can be treated using alternative treatment standards provided at 40 CFR §268.45. Finally, prospective EPA rulemakings such as the Hazardous Waste Identification Rule for contaminated media should be in effect at the end of the capacity variance

period and afford some regulatory relief through the promulgation of generic exit levels for hazardous constituents. For these reasons, EPA believes that it is inappropriate to attribute treatment costs to the Phase IV final rule for wood preserving contaminated media.